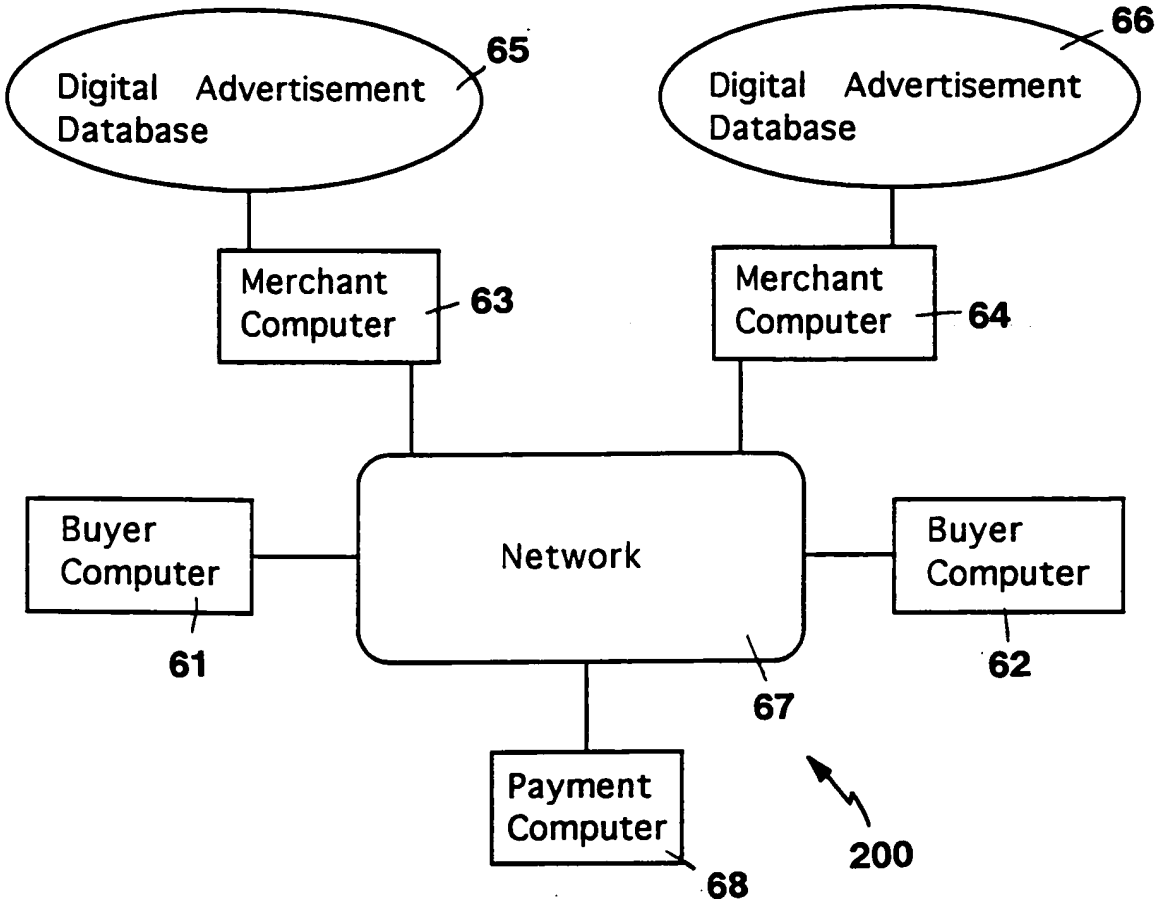

Digital Advertisement Database
65
Digital Advertisement Database
66
Merchant Computer
63
Merchant Computer
64
Buyer Computer
61
Network
67
Buyer Computer
62
Payment Computer
68
200

FIG. 1

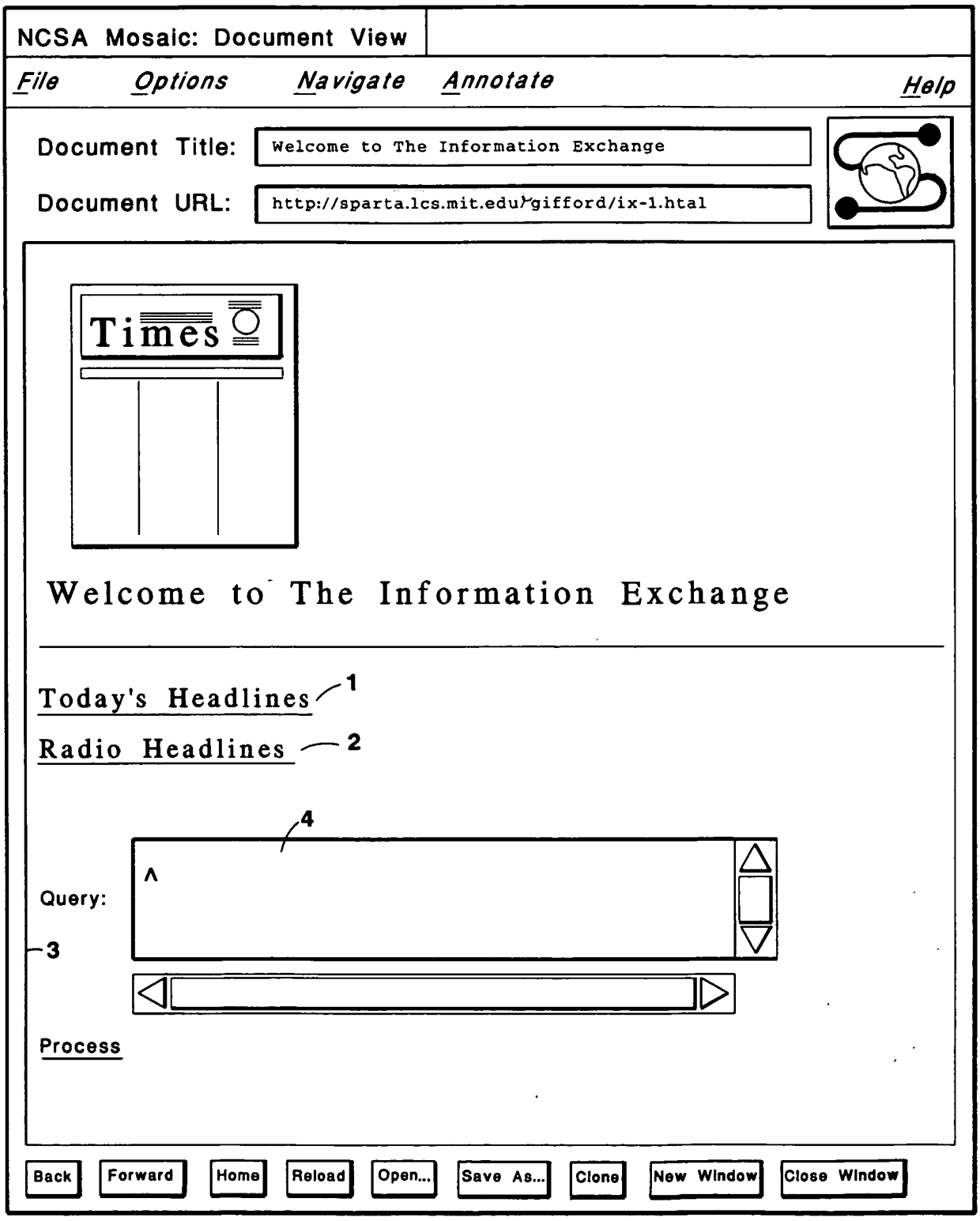

NCSA Mosaic: Document View
File
Options
Navigate
Annotate
Help
Document Title:
Welcome to The Information Exchange
Document URL:
http://sparta.lcs.mit.edu/gifford/ix-1.htal
Times
Welcome to The Information Exchange
Today's Headlines
1
Radio Headlines
2
4
Query:
3
Process
Back
Forward
Home
Reload
Open...
Save As...
Clone
New Window
Close Window

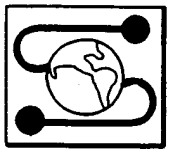
FIG. 2

NCSA Mosaic: Document View

File Options Navigate Annotate Help

Document Title: The Information Exchange Headlines

Document URL: http://sparta.lcs.mit.edu/gifford/ix-2.htal



New York Times Headlines

SHUTTLE HUBBLE (Houston)- Arriving for a house call 357 miles above Earth, the astronauts of the space shuttle Endeavor on Saturday reached out with a mechanical grappling arm and easily snared the Hubble space telescope and prepared to treat the crippled spacecraft in five days of the most complex orbital repairs yet attempted.
By John Noble Wilford

$1.00 5

HEALTH-ALLIANCE (Washington)- If the Clinton health plan becomes law, it will put a new institution into the lives of most Americans: the health alliance. Almost no other aspect of the plan is so little understood or so radically different from the status quo. By Robin Toner.

$0.75 6

GAMBLING (Las Vegas)- The newest perspective on the booming national industry of legalized gambling is now open for business: futuristic virtual-reality rides to soothe the losers' souls, just up the theme park escalator from acres of the latest video slot machines. By Francis X. Clines.

$0.75 7

Back Forward Home Reload Open... Save As... Clone New Window Close Window

FIG. 3

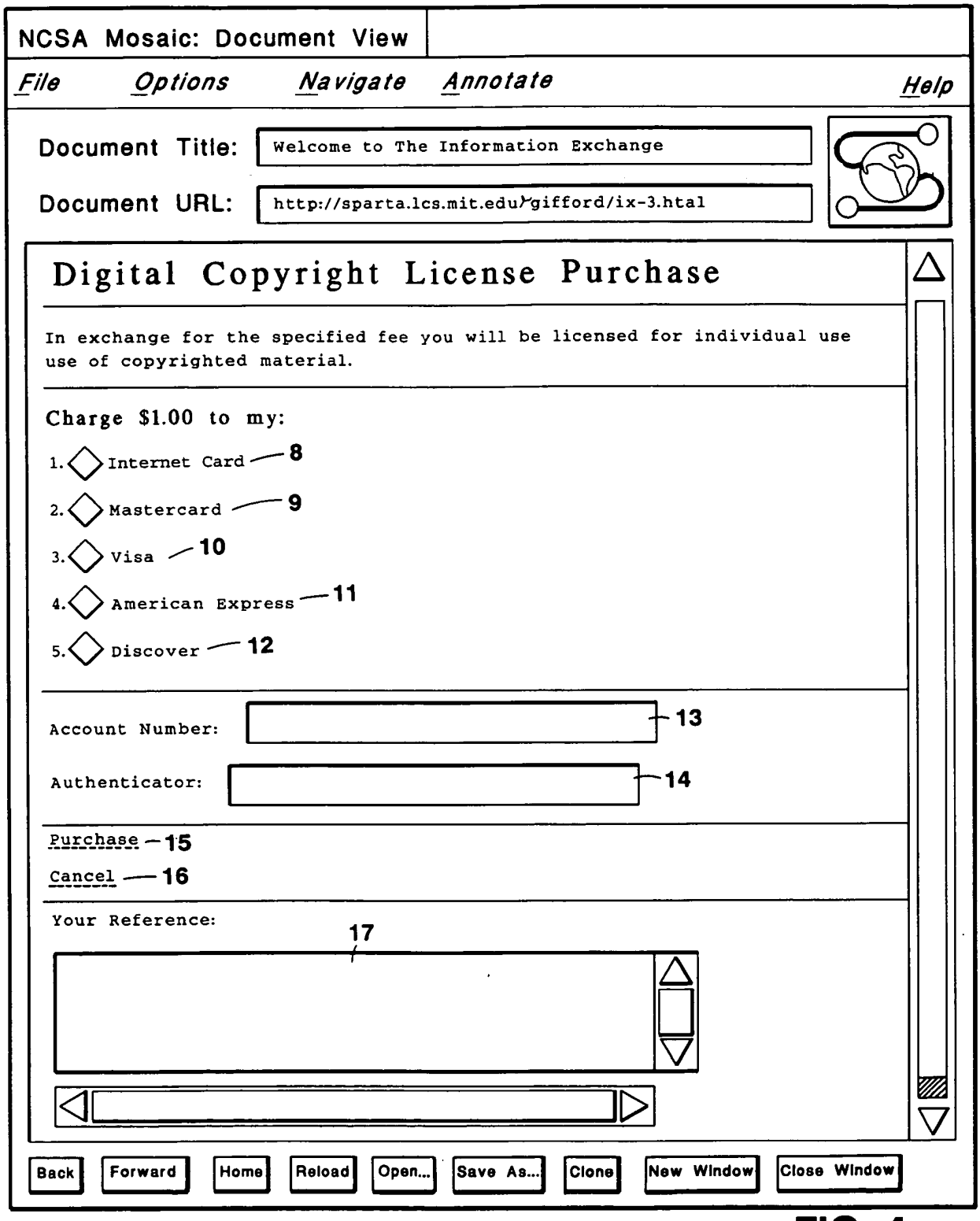

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Options
Navigate
Annotate
Help
Document Title:
Welcome to The Information Exchange
Document URL:
http://sparta.lcs.mit.edu/gifford/ix-3.htal
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In exchange for the specified fee you will be licensed for individual use use of copyrighted material.
Charge $1.00 to my:
1. Internet Card 8
2. Mastercard 9
3. Visa 10
4. American Express 11
5. Discover 12
Account Number: 13
Authenticator: 14
Purchase 15
Cancel 16
Your Reference:
17
Back
Forward
Home
Reload
Open...
Save As...
Clone
New Window
Close Window

FIG. 4

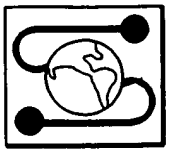
18

NCSA Mosaic: Document View

File Options Navigate Annotate Help

Document Title: TROUBLED HUBBLE SPACE TELESCOPE PULLED IN BY SHUTTLE FOR REPAIRS

Document URL: http://sparta.lcs.mit.edu/gifford/ix-7.htal



TROUBLED HUBBLE SPACE TELESCOPE PULLED IN BY SHUTTLE FOR REPAIRS

By JOHN NOBLE WILFORD
The New York Times (Copyright 1993 The New York Times)

priority: Urgent
date: 12-04-93 1712EST
catagory: Domestic
subject: BC SHUTTLE HUBBLE ART

HOUSTON- Arriving for a house call at 357 miles above Earth, the astronauts of the space shuttle Endeavor reached out Saturday with a mechanical grappling arm and easily snared the Hubble telescope.

The orbital retrieval paves the way for the shuttle's astronauts to treat the crippled spacecraft in five days of the most complex orbital repairs yet attempted.

"Houston, Endeavorhas afirm handshake with Mr. Hubble's telescope," Col. Richard D. Covey of the Air Force, the shuttle commander, radioed to Mission Control in Houston after the robotic arm had grasped the 1.6 billion telescope.

The shuttle's successful rendezvous with the orbiting telescope was the first major step in a mission that could be fateful to both astronomy and NASA

Installing new mirrors to overcome Hubble's blurred vision will return the telescope to its full abilities, giving the astronomers a view almost to the edge of the universe. And such a highly visible success could boost the space agency's reputation at a time it is seeking support for building an international space station.

Once the 12.5-ton telescope was securely berthed in the open cargo bay Saturday morning, it was ready for the astronauts to begin the first of their five space walks early Sunday morning.

The schedule calls for Dr. Musgrave and Dr. Jeffrey A. Hoffman to replace failed gyroscopes, two electronic control units and some fuses.

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FIG. 5

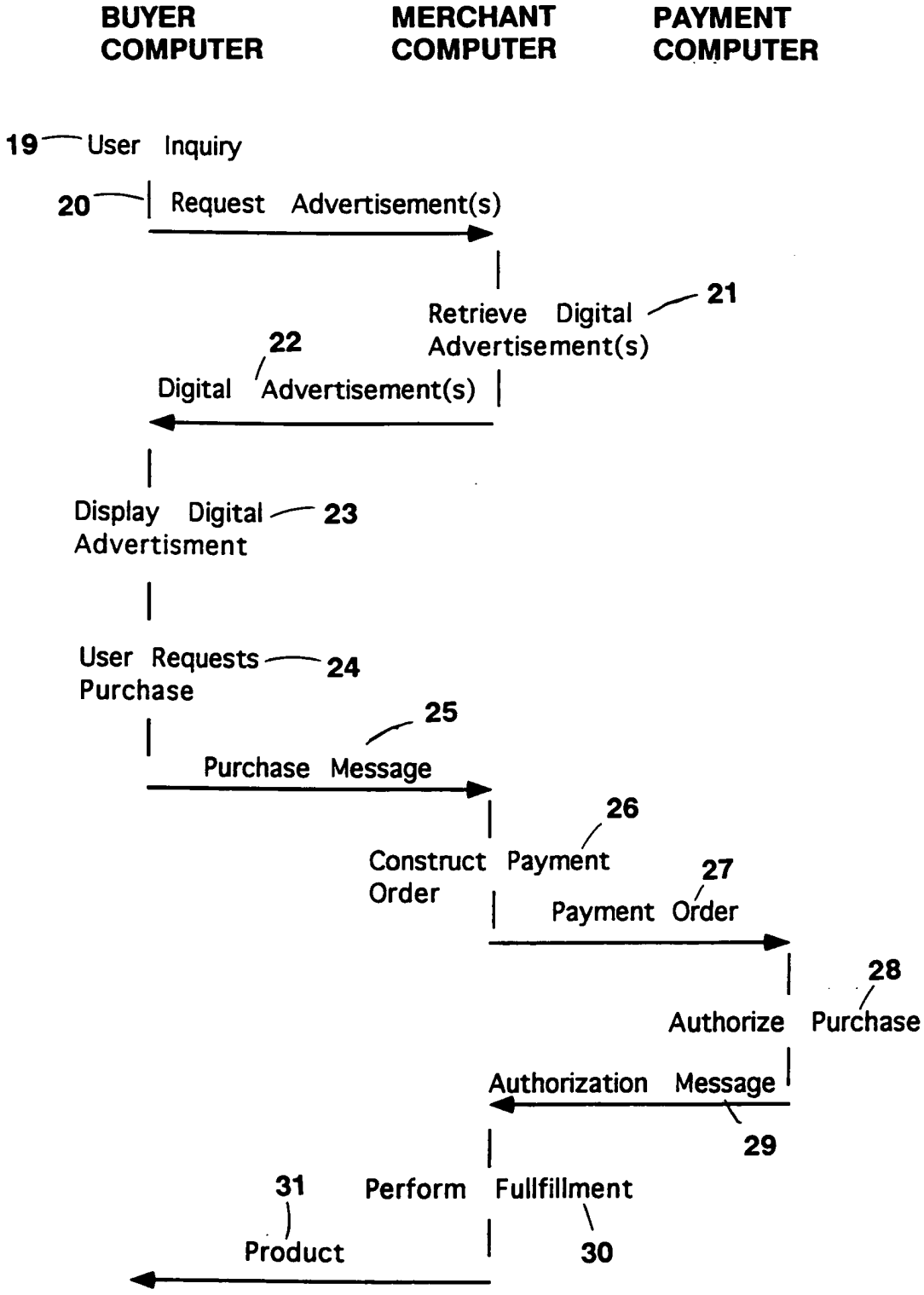

BUYER COMPUTER
MERCHANT COMPUTER
PAYMENT COMPUTER
19
User Inquiry
20
Request Advertisement(s)
Retrieve Digital Advertisement(s)
21
22
Digital Advertisement(s)
Display Digital Advertisment
23
User Requests Purchase
24
25
Purchase Message
26
Construct Payment Order
27
Payment Order
28
Authorize Purchase
Authorization Message
29
31
Perform Fullfillment
30
Product

FIG. 6

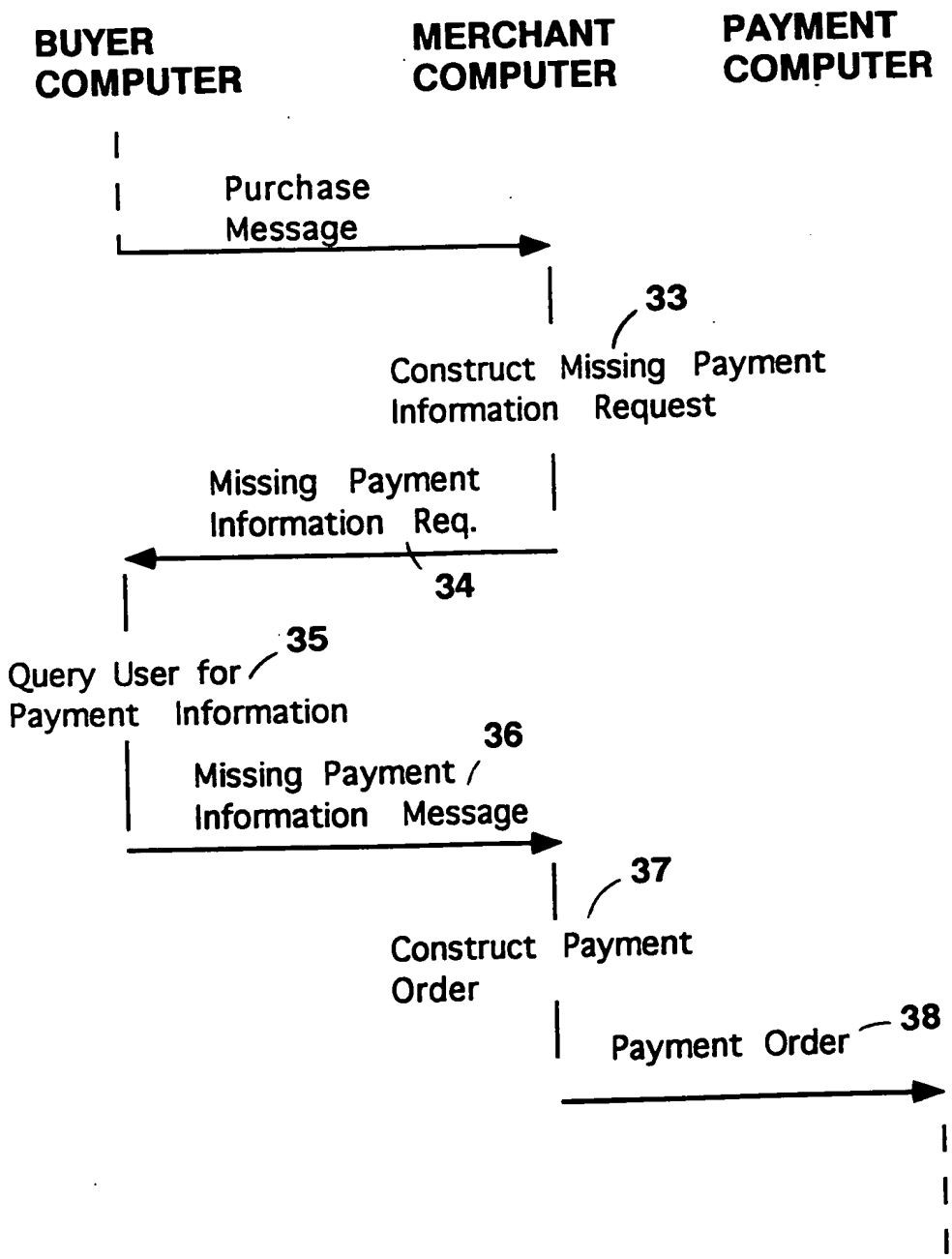

BUYER COMPUTER
MERCHANT COMPUTER
PAYMENT COMPUTER
Purchase Message
33
Construct Missing Payment Information Request
Missing Payment Information Req.
34
35
Query User for Payment Information
36
Missing Payment Information Message
37
Construct Payment Order
Payment Order
38

FIG. 7

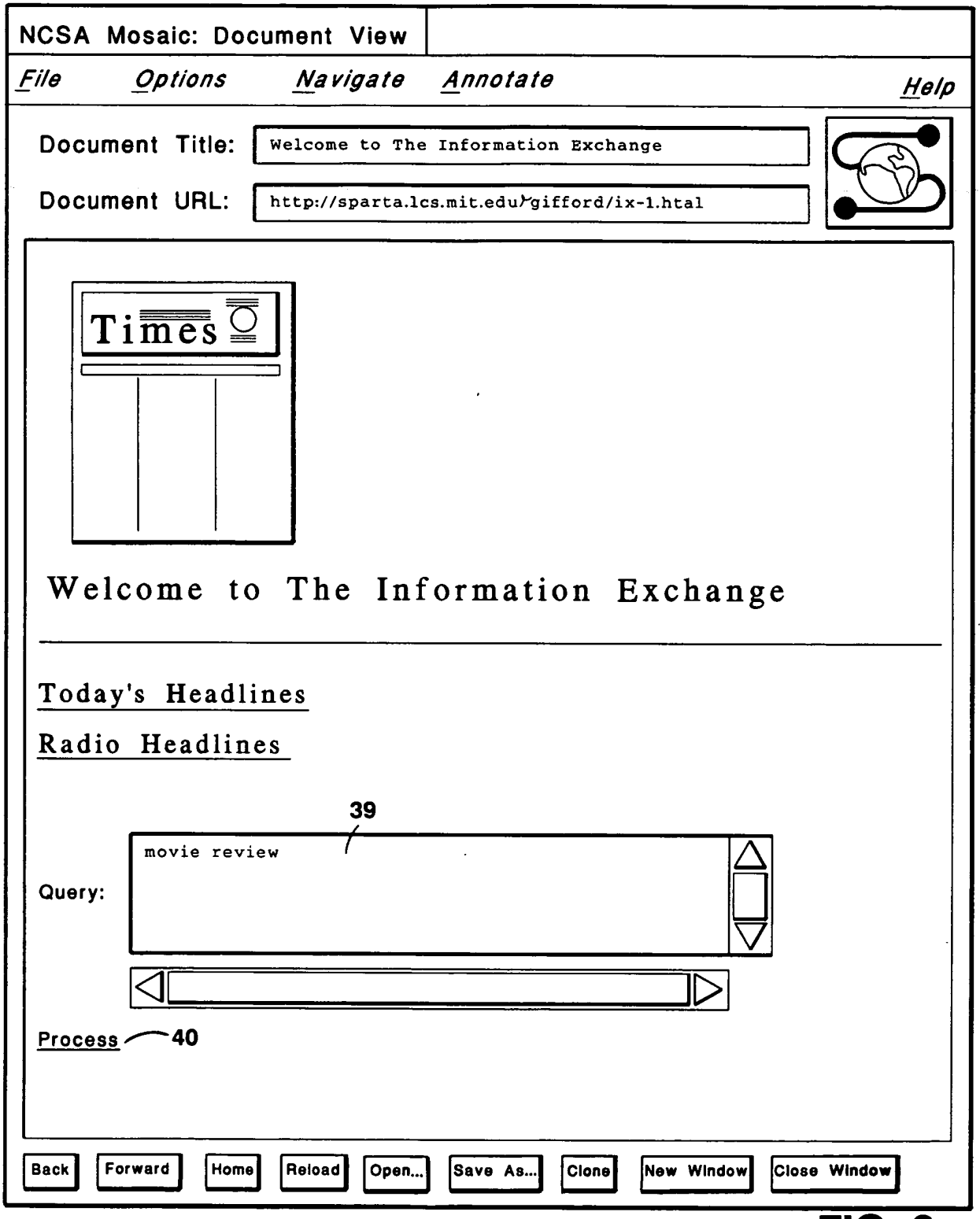

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File
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Help
Document Title:
Welcome to The Information Exchange
Document URL:
http://sparta.lcs.mit.edu/gifford/ix-1.htal
Times
Welcome to The Information Exchange
Today's Headlines
Radio Headlines
39
Query:
movie review
Process
40
Back
Forward
Home
Reload
Open...
Save As...
Clone
New Window
Close Window

FIG. 8

NCSA Mosaic: Document View

File Options Navigate Annotate Help

Document Title: Query Results: movie review

Document URL: http://sparta.lcs.mit.edu/gifford/ix-4.htal

QUERY RESULTS: movie review

1. Dec. 2 1993 14;32 [78 lines] $1.00 46 39 45

In "A Dangerous Women," Debra Winger sinks deeply into the drab role of Martha Horgan, a sheltered innocent living in a small California town.

2. Dec. 2 1993 14:23 [60 lines] $1.00 40

"Deception" is a fabulously farfetched story about the string of suprises that leads Bessie Faro (Andie MacDowell) all over the world.

3. Nov. 26 1993 19:43 [49 lines] $1.00 41

"Twenty Bucks" follows a $20 dollar bill from the moment it's dispensed by an automatic teller machine to its destruction months later. Along the way it passes through the hands of dozens of individuals from all walks of life.

4. Nov. 23 1993 18;46 [48 lines] $1.00 42

(" A Perfect World," a drama, is rated PG-13 for language and violence. It received 3 and one-half stars out of 4.)

Clint Eastwood and Kevin Costner represent the best of Hollywood's stars who entertain without sacrificing artistic integrity. In "A Perfect World," their reputations remain intact.

5. Nov. 23 1993 18:46 [53 lines] $1.00 43

("GEORGE BALANCHINE'S 'NUTCRACKER,"' a dance film, is rated G. It received 2 stars out of 4.)

A straightforward record of the annual Christmas show staged by the New York City Ballet, "George Balanchine's 'Nutcracker,'" would have gone directly to TV if not for the participation of

6. Nov. 23 1993 18:46 [60 lines] $1.00 44

("WE'RE BACK! A DINOSAUR'S STORY," an animated feature, is rated G. It received 2 stars out of 4.)

Kids won't even understand the best joke in the animated "We're Back! A Dinosaur's Story." It has to do with a godlike time- and space-traveling

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FIG. 9

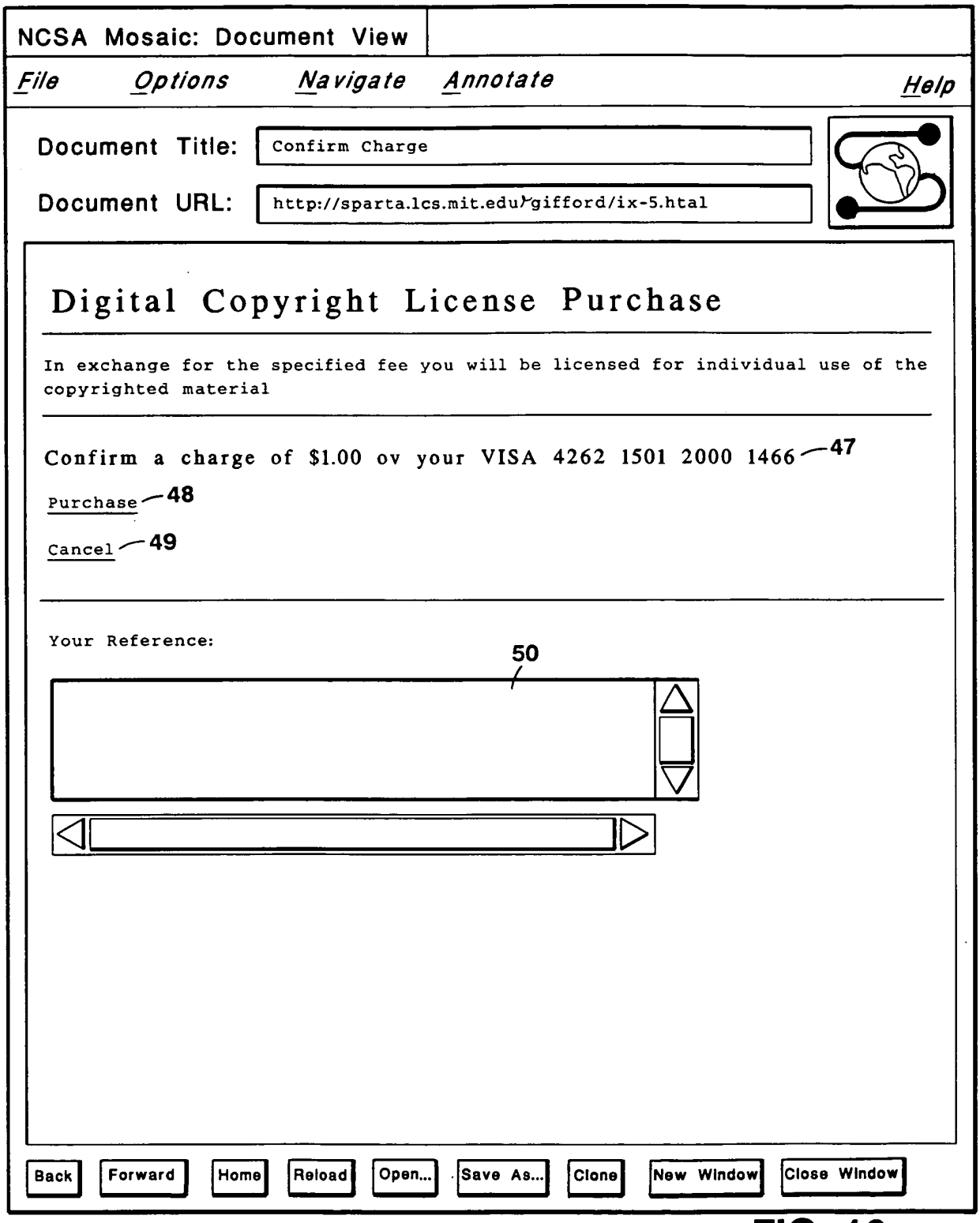

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Confirm Charge
Document URL:
http://sparta.lcs.mit.edu/gifford/ix-5.htal
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In exchange for the specified fee you will be licensed for individual use of the copyrighted material
Confirm a charge of $1.00 ov your VISA 4262 1501 2000 1466
47
Purchase
48
Cancel
49
Your Reference:
50
Back
Forward
Home
Reload
Open...
Save As...
Clone
New Window
Close Window

FIG. 10

51

NCSA Mosaic: Document View

File Options Navigate Annotate Help

Document Title: A DANGEROUS WOMAN

Document URL: http://sparta.lcs.mit.edu/gifford/ix-6.htal

A DANGEROUS WOMAN

By JANET MASLIN

The New York Times (Copyright 1993 The new York Times

priority: Regular
date: 12-02-93 1432EST
catagory: Entertainment and Culture
subject: BC WOMEN FILM REVIEW

In "A Dangerous Women," Debra Winger sinks deeply into the drab role of Martha Horgan, a sheltered innocent living in a small California town.

Characters like Martha have a way of attracting the storyteller's interst at a very precise point in their lives. It is the moment just before the character's peaceful existence is ruptured by some seismic force like sex or death or a symbolic coming of age.

"A Dangerous Women" is soap opera enough to churn up all three.

With Ms. Winger's eerily convincing performance at it's centerpiece, the film creates a world of sexual chicanery that would do any television series proud.

Martha is taken care of by aunt Frances (Barbara Hershey), a rich, beautiful widow involved in an extramarital affair with a state assemblyman (John Terry). That liaison starts off the film with a suitable bang, as the assembly's wife (Laurie Metcalf) drunkenly drives her car into the widow's front porch as a means of registering her irritation.

Martha, a fragile creature in a girlish nightgown and thick glasses, watches this outburst in bewildered horror. But the film intends it as a harbringer of Martha's own act of violence, which is already in the works and will serve as

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FIG. 11

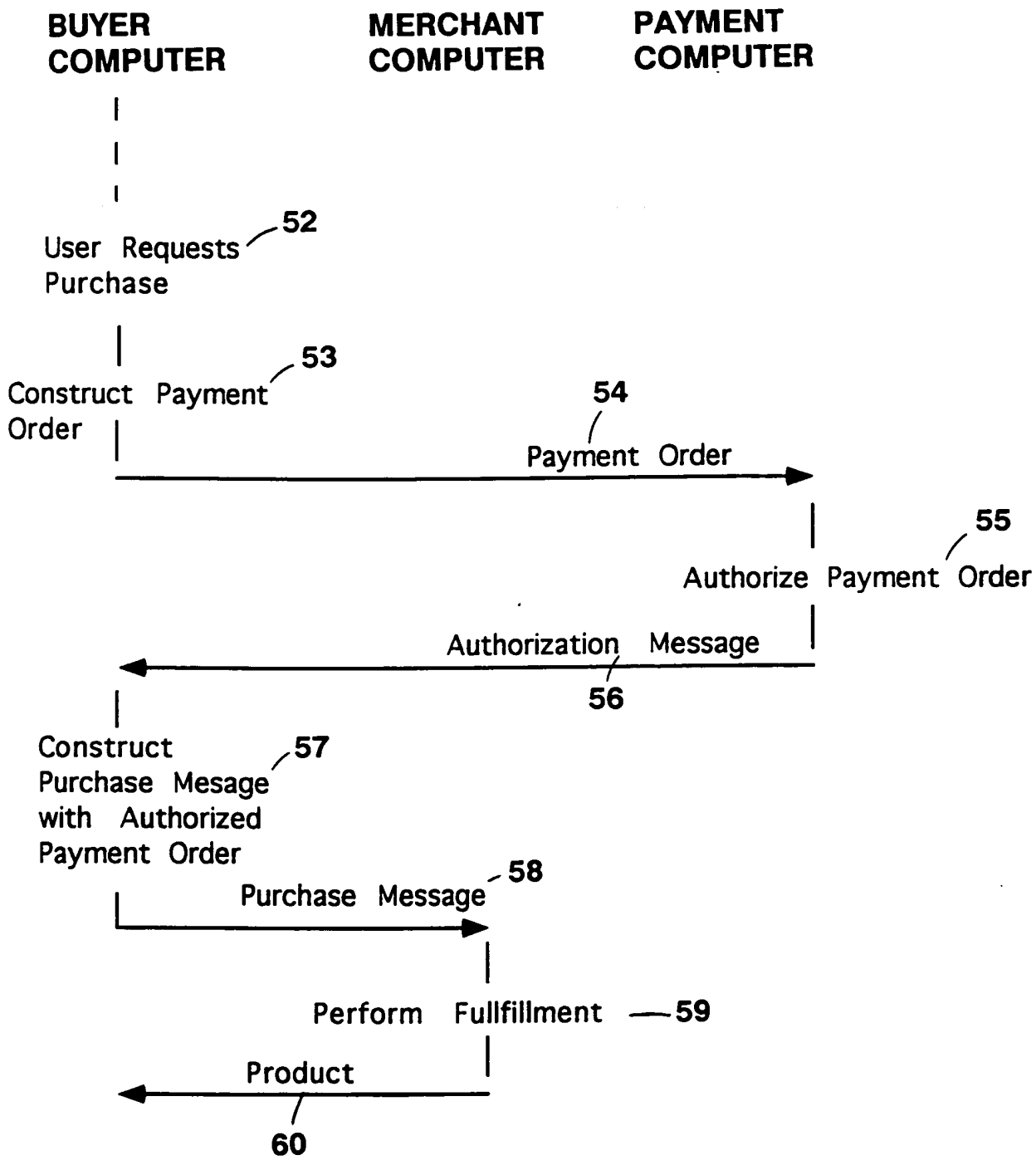

BUYER COMPUTER
MERCHANT COMPUTER
PAYMENT COMPUTER
User Requests Purchase
52
Construct Payment Order
53
54
Payment Order
55
Authorize Payment Order
Authorization Message
56
Construct Purchase Mesage with Authorized Payment Order
57
Purchase Message
58
Perform Fullfillment
59
Product
60

FIG. 12

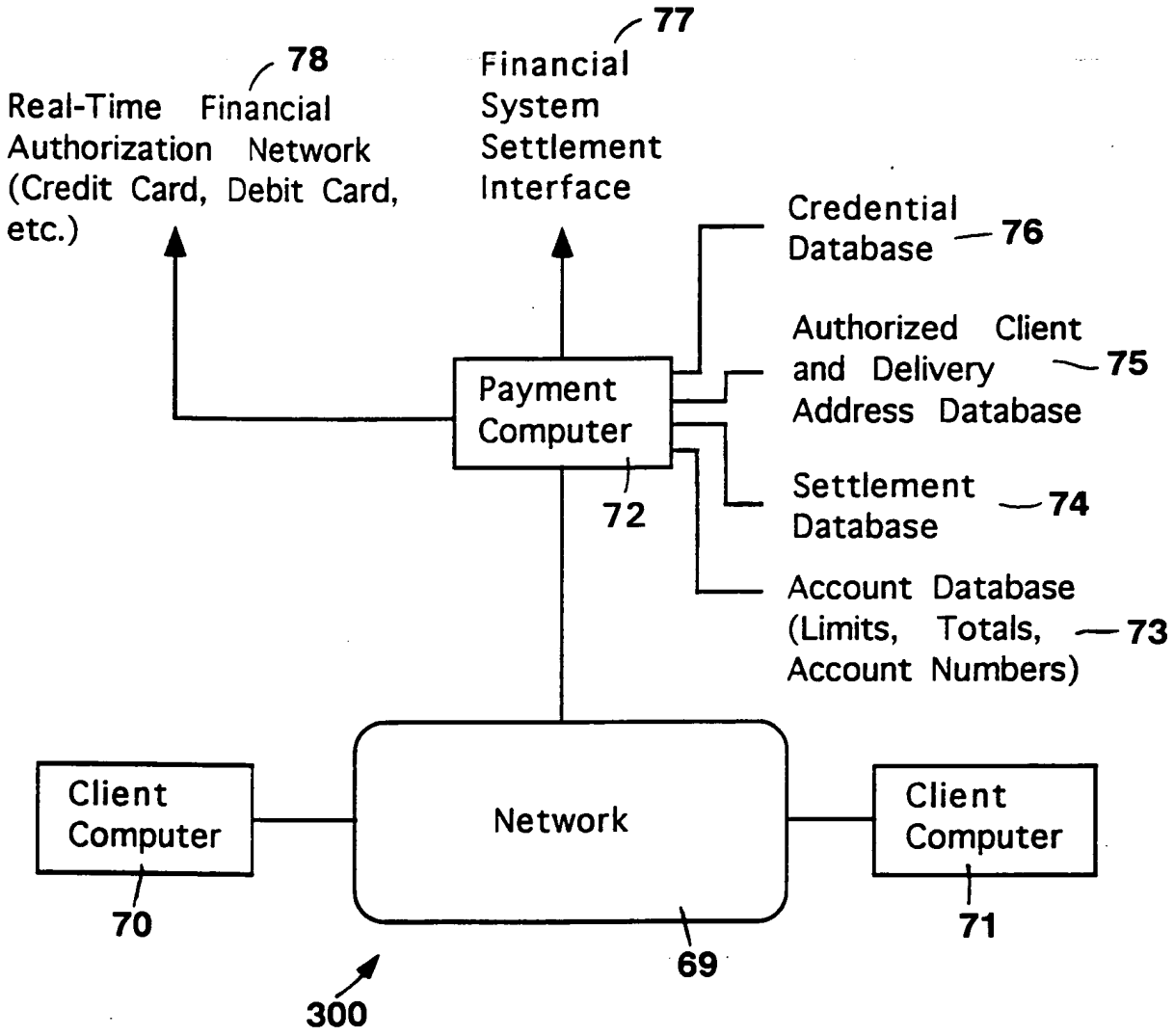

78
Real-Time Financial
Authorization Network
(Credit Card, Debit Card,
etc.)
77
Financial
System
Settlement
Interface
Credential
Database
76
Authorized Client
and Delivery
75
Address Database
Payment
Computer
72
Settlement
Database
74
Account Database
(Limits, Totals,
73
Account Numbers)
Client
Computer
70
Network
69
Client
Computer
71
300

FIG. 13

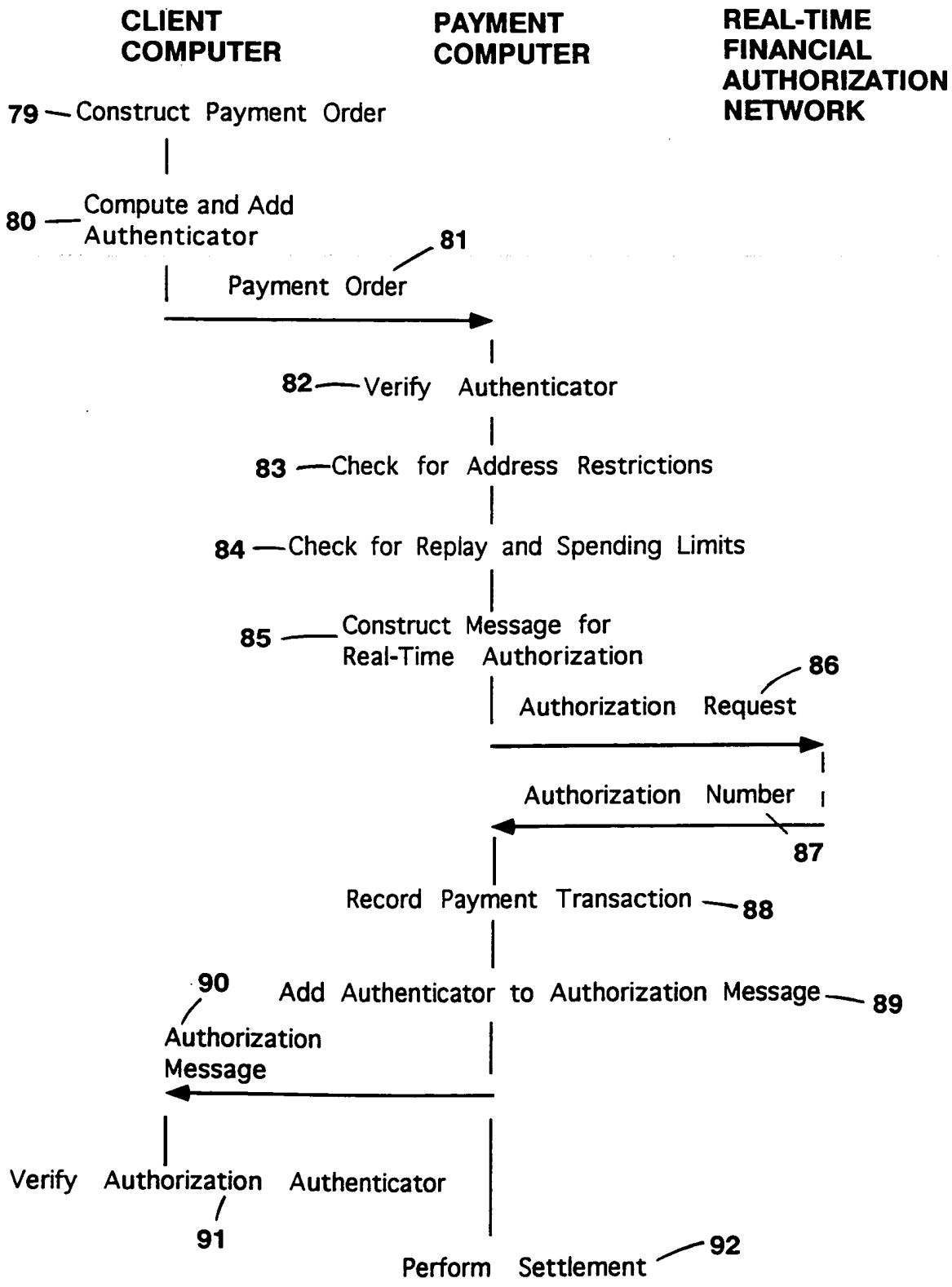

CLIENT COMPUTER
PAYMENT COMPUTER
REAL-TIME FINANCIAL AUTHORIZATION NETWORK
79 Construct Payment Order
80 Compute and Add Authenticator
81
Payment Order
82 Verify Authenticator
83 Check for Address Restrictions
84 Check for Replay and Spending Limits
85 Construct Message for Real-Time Authorization
86
Authorization Request
Authorization Number
87
Record Payment Transaction 88
90
Add Authenticator to Authorization Message 89
Authorization Message
Verify Authorization Authenticator
91
Perform Settlement 92

FIG. 14

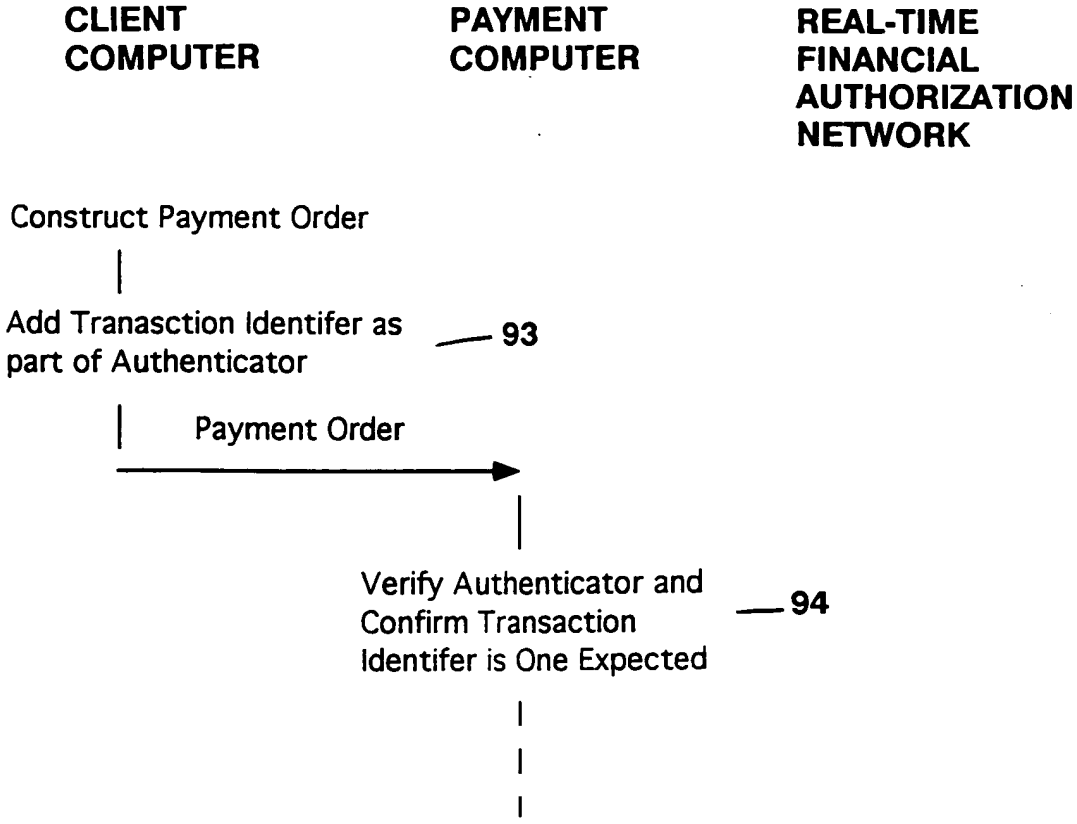

CLIENT COMPUTER
PAYMENT COMPUTER
REAL-TIME FINANCIAL AUTHORIZATION NETWORK
Construct Payment Order
Add Tranasction Identifer as part of Authenticator
93
Payment Order
Verify Authenticator and Confirm Transaction Identifer is One Expected
94

FIG. 15

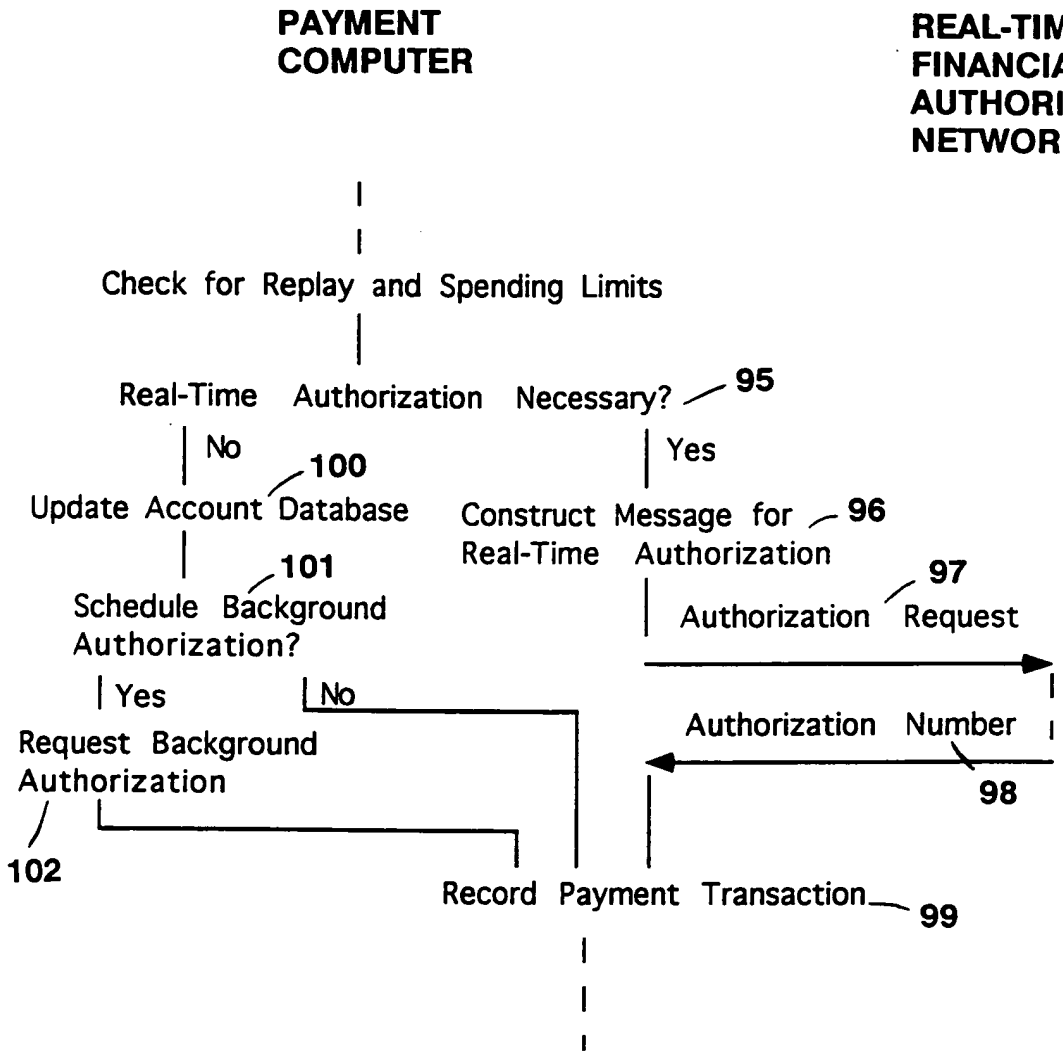

PAYMENT COMPUTER
REAL-TIME FINANCIAL AUTHORIZATION NETWORK
Check for Replay and Spending Limits
Real-Time Authorization Necessary?
95
No
Yes
100
Update Account Database
Construct Message for Real-Time Authorization
96
101
Schedule Background Authorization?
97
Authorization Request
Yes
No
Authorization Number
98
Request Background Authorization
102
Record Payment Transaction
99

FIG. 16